

ABSTRACT

The present invention relates to isolated peptides, and fragments and variants thereof, that bind to human G-protein coupled receptors, particularly G-protein coupled receptors belonging to the P2Y family of receptors. Also related are 5 polypeptides comprising these peptides, and antibodies that specifically bind to these peptides and polypeptides. The invention further relates to polynucleotides encoding these peptides and polypeptides, vectors comprising these polynucleotides, and host cells comprising these vectors. In addition, the invention relates to methods for producing and isolating the disclosed peptides, polypeptides, antibodies, 10 polynucleotides, vectors, and host cells. The invention also relates to methods for preventing, diagnosing, ameliorating, and treating disorders associated with HGPRBMY3 and related P2Y G-protein coupled receptors, including aberrant cell growth, immunological conditions, and diseases or disorders related to immune, brain, breast, cervix, kidney, and colon tissues. Further related are methods of screening for 15 agents that modulate and/or bind to HGPRBMY3 or related P2Y G-protein coupled receptors.